

**Amendment and Response**

Applicant: Michael J. Brosnan

Serial No.: 09/811,001

Filed: March 13, 2001

Docket No.: 10010038-1

Title: PORTABLE ELECTRONIC DEVICE WITH MOUSE-LIKE CAPABILITIES

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**REMARKS**

This Amendment is responsive to the Office Action mailed March 13, 2003. In that Office Action, the Examiner rejected claims 1-8, and 10 under 35 U.S.C. §103(a) as being unpatentable over Gordon et al., U.S. Patent No. 6,057,540 ("Gordon"), in view of Mugura et al., U.S. Patent No. 6,208,342 ("Mugura"). Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gordon in view of Mugura, and further in view of Adan et al., U.S. Patent No. 6,373,047 ("Adan"). Claims 11-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gordon in view of Adan.

With this Response, claims 1, 8, 13, 16, and 20 have been amended. It is believed that all claims are now in a condition for allowance. Notice to that effect is respectfully requested.

**Objections to Drawings**

The Examiner objected to the drawings under 37 C.F.R. 1.83(a), indicating that the terms "a digitizer" and "a correlator" in claims 8, 16, and 20, must be shown in the drawings or the features canceled from the claims. With this Amendment, the Applicants have amended claims 8, 16, and 20, to remove the terms "a digitizer" and "a correlator". Removal of the objection to the drawings under 37 C.F.R. 1.83(a) is respectfully requested.

The Examiner also objected to the drawings under 37 C.F.R. 1.84(p)(4) "because reference characters '200' and '202' have both been used to designate the 'I/O interface' (see figure 3)." (Office Action at para. no. 4, page 3). 37 C.F.R. 1.84(p)(4) specifies that "The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts." I/O interface 200 and I/O interface 202 are different parts in the illustrated embodiment, and only appear in one view (Figure 3), so the first part of 37 C.F.R. 1.84(p)(4), which applies to the same part of an invention appearing in more than one view, does not appear to be applicable. In addition, the reference characters "200" and "202" are not the same reference character, so the second part of 37 C.F.R. 1.84(p)(4) also does not appear to be applicable. Removal of the objection to the drawings under 37 C.F.R. 1.84(p)(4) is respectfully requested.

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**Claim Rejections under 35 U.S.C. § 103**

Claims 1-8, and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gordon et al., U.S. Patent No. 6,057,540 (“Gordon”), in view of Mugura et al., U.S. Patent No. 6,208,342 (“Mugura”). With respect to independent claim 5, the Examiner stated that “Gordon does not teach . . . (ii) a menu display having a plurality of menu items and a menu item pointer for highlighting a particular menu item by the user; and (iii) the controller configured to highlight a first menu item based on the first set of movement data, and select the first menu item based on the second set of movement data.” (Office Action at para. no. 7, pages 3-4). However, the Examiner stated that “Mugura teaches a portable electronic device 10 (a cellular telephone 10) comprising a display 14 for displaying a menu display 22 including a plurality of menu items 12 (graphic images 12), and a menu item pointer 16 (a selectable graphic image 16) for highlighting a particular menu item by the user.” (Office Action at para. no. 7, page 4). The Examiner further stated that “It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Mugura and Gordon as discussed above for providing the claimed invention because this would provide an improve pointer control device, which is conveniently and effectively control a screen pointer by using optical motion sensor for detecting movement of an arbitrary surface (see Gordon, col. 2, lines 46-53).” (Office Action at para. no. 7, page 4).

There is no teaching or suggestion to combine Gordon and Mugura. It does not appear that Gordon even mentions a “menu,” let alone teach or suggest that menuing techniques, such as those disclosed in Mugura, could or should be used. Mugura discloses the use of a jog dial 28 (Figures 1-3) for manipulating a menu 22 (Figures 2-3). Jog dial 28 is not a motion detector, and Mugura includes no teaching or suggestion that the jog dial 28 could be replaced by a motion detector, or the motion detection arrangement 1 (Figure 1) disclosed in Gordon.

Further, Gordon and Mugura, either alone or in combination, do not teach “a controller configured to move the menu item pointer based on the first set of movement data [generated by the motion sensor] to highlight a first menu item, the controller configured to select the first menu item based on the second set of movement data [generated by the motion sensor]” as claimed in independent claim 5. Thus, even if the motion detection arrangement 1 (Figure 1) disclosed in Gordon were incorporated into the telephone 36 (Figures 1-4)

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disclosed in Mugura, which there is no suggestion to do as described above, there is still no teaching or suggestion in the cited references that a menu item would be highlighted based on a first set of movement data generated by the motion detection arrangement, and that the menu item would be selected based on a second set of movement data generated by the motion detection arrangement. Nor are the additional limitations of dependent claim 6 taught or suggested by the cited references. Claim 6 specifies that “the first set of movement data indicates movement in a first direction, and the second set of movement data indicates movement in a second direction, the second direction being substantially perpendicular to the first direction.”

In view of the above, independent claim 5 is not taught or suggested by Gordon and Mugura, either alone, or in combination. In addition, dependent claims 6-8 and 10, which further limit patentably distinct claim 5, are also believed to be allowable over the cited references. Allowance of claims 5-8 and 10 is respectfully requested.

With respect to claims 1-4, the Examiner stated that “[c]laims 1-4 are method claims corresponding to the apparatus claims 5-8 and 10, and are rejected on the same basis set forth in claims 5-8 and 10 discussed above. Independent claim 1 as amended includes the limitation “sensing two-dimensional relative movement between the portable electronic device and an imaging surface with a motion sensor”. Claim 1 as amended also specifies that the first and the second sets of movement data are generated “with the motion sensor.” As specified in claim 1, the menu item pointer is moved based on the first set of movement data to highlight a first menu item, and the first menu item is selected based on the second set of movement data.

As described above with respect to claim 5, there is no teaching or suggestion to combine Gordon and Mugura. And, Gordon and Mugura, either alone or in combination, do not teach “moving the menu item pointer based on the first set of movement data [generated by the motion sensor] to highlight a first menu item” and “selecting the first menu item based on the second set of movement data [generated by the motion sensor]” as claimed in independent claim 1. Thus, even if the motion detection arrangement 1 (Figure 1) disclosed in Gordon were incorporated into the telephone 36 (Figures 1-4) disclosed in Mugura, which there is no suggestion to do as described above, there is still no teaching or suggestion in the cited references that a menu item would be highlighted based on a first set of movement data

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generated by the motion detection arrangement, and that the menu item would be selected based on a second set of movement data generated by the motion detection arrangement. Nor are the additional limitations of dependent claim 2 taught or suggested by the cited references. Claim 2 specifies that "the first set of movement data indicates movement in a first direction, and the second set of movement data indicates movement in a second direction, the second direction being substantially perpendicular to the first direction."

In view of the above, independent claim 1 is not taught or suggested by Gordon and Mugura, either alone, or in combination. In addition, dependent claims 2-4, which further limit patentably distinct claim 1, are also believed to be allowable over the cited references. Allowance of claims 1-4 is respectfully requested.

Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gordon in view of Mugura, and further in view of Adan et al., U.S. Patent No. 6,373,047 ("Adan"). As described above, independent claim 5 is not taught or suggested by the cited references. Claim 9, which further limits patentably distinct claim 5, is also believed to be allowable over the cited references. Allowance of claim 9 is respectfully requested.

Claims 11-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gordon in view of Adan. The Examiner stated that:

Regarding claims 14 and 18, Gordon teaches an electronic device including a motion sensor 9, and a computer having software program for storing movement pattern data, and for comparing the first set of motion data and the second set of motion data as discussed in claim 5 above. However, Gordon does not teach the controller is configured to identify the user of the portable electronic device. Adan teaches an portable electronic device 42 (a mouse 42) which is interface with a computer 20, wherein the movement pattern data from the surface 116 are used for user identification (see figures 1 and 3; also, col. 10, lines 9-12; col. 14, lines 17-20, lines 29-42).

Regarding claims 11-13, 15-17, and 19-22, which are and apparatus method claims corresponding to the apparatus claims 14 and 18, and are therefore rejected on the same reasons set forth in claims 14 and 18, and by the reasons discussed above. (Office Action at paras. 12-13, pages 5-6).

Independent claims 11, 14, and 18, each include the limitations "storing movement pattern data representing a first pattern of relative movement between the portable electronic device and an imaging surface", "generating a first set of motion data" the first set of motion

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data “representing a second pattern of relative movement between the portable electronic device and an imaging surface”, and “comparing the first set of motion data to the stored movement pattern data”.

First, there is no teaching or suggestion to combine Gordon and Adan. Adan discloses a mouse 42 (Figure 1) that can be used to detect a specially coded image, such as a barcode, that is placed on a surface, such as a personalized mouse pad. (See, e.g., Adan at col. 11, lines 55-61; col. 14, lines 17-28). In contrast, Gordon teaches away from using a mouse and a mouse pad. (See, e.g., Gordon at col. 1, line 54, to col. 2, line 54). Gordon teaches a “mouseless” screen pointer control for a computer system. (See, e.g., Summary of the Invention, and Title, of Gordon). Further, Gordon and Adan, either alone, or in combination, do not teach or suggest the above-quoted limitations of independent claims 11, 14, and 18. As the Examiner has acknowledged, Gordon includes no teaching regarding identifying the user of a portable electronic device. Gordon does not teach or suggest identifying a user, or enabling operation of a portable electronic device, based on a comparison of stored movement pattern data representing a first pattern of relative movement with a set of motion data representing a second pattern of relative movement.

Adan also includes no teaching or suggestion regarding identifying a user, or enabling operation of a portable electronic device, based on a **comparison of stored movement pattern data** representing a first pattern of relative movement **with a set of motion data** representing a second pattern of relative movement. Rather, Adan discloses matching an “image” or “sequence of images” to an image or sequence of images stored in a table to identify coded features specially formed on the mouse pad, such as the triangular features shown in Figure 7, or the barcode shown in Figure 11. (See, e.g., Adan at col. 12, lines 23-31; col. 15, lines 32-46). In contrast to simply comparing images to stored images as disclosed in Adan, by comparing movement pattern data representing a first pattern of movement with motion data representing a second pattern of movement, as set forth in independent claims 11, 14, and 18, common patterns of movement can be identified regardless of the imaging surface being used, including the case where different imaging surfaces are used for the first and the second movements.

In view of the above, independent claims 11, 14, and 18, are not taught or suggested by Gordon and Adan, either alone, or in combination. In addition, dependent claims 12-13,

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15-17, 19-22, which further limit patentably distinct claims 11, 14, and 18, respectively, are also believed to be allowable over the cited references. Allowance of claims 11-22 is respectfully requested.

**Allowable Subject Matter**

In light of the above, Applicant believes independent claims 1, 5, 11, 14, and 18, and the claims depending therefrom, are in condition for allowance. Allowance of these claims is respectfully requested.

**CONCLUSION**

Any inquiry regarding this Amendment and Response should be directed to Jeff A. Holmen at the below-listed telephone number or Pamela Lau Kee at Telephone No. (408) 553-3059, Facsimile No. (408) 553-3063. In addition, all correspondence should continue to be directed to the following address: